App. No.: 10/801,443
Art Unit: 1624

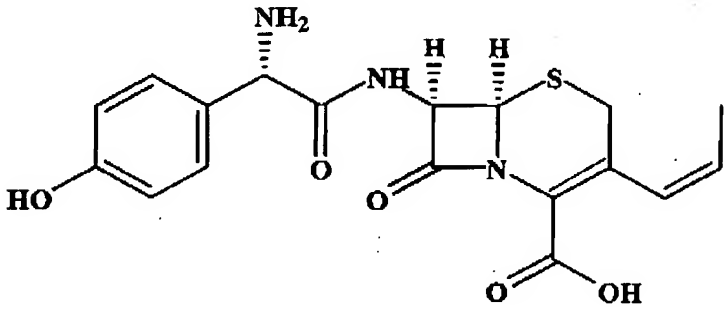
RECEIVED
CENTRAL FAX CENTER
NOV 27 2006

Amendments to the Claims:

This listing of claims will replace all prior versions and listings of claims in the application.

Listing of Claims:

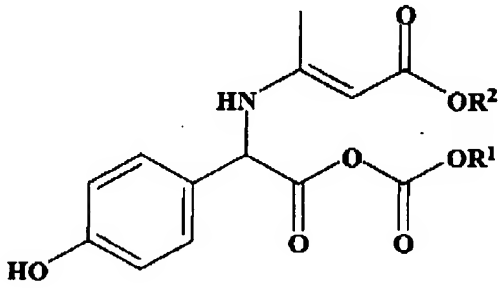
1. (Currently Amended) A process for preparation of Cefprozil of formula (I)



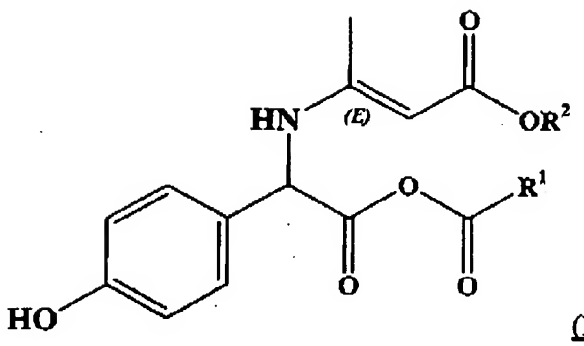
(I)

in the form of a monohydrate, the process comprising:

condensing a mixed acid anhydride of α-amino-p-hydroxy phenylacetic acid of formula (III) or (IIIa)



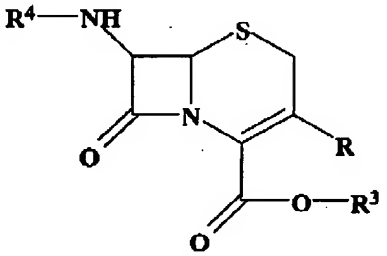
(III)



(IIIa)

wherein R^1 is an alkyl or an aryl group, and R^2 is methyl or ethyl,

with a protected 7-amino-3-(propen-1-yl)-3-cephem-4-carboxylic acid of formula (VII)



(VII)

wherein R^3 and R^4 are protective groups, and R is propen-1-yl,

followed by hydrolysis, isolation and purification to give Cefprozil of formula (I) in the form of a monohydrate

wherein the mixed anhydride of formula (III) is prepared by a process comprising the steps of

(a) adding ~~a suitable~~ an acylating agent and a base to a mixture of an inert organic solvent and a polar aprotic solvent at a temperature in the range of 0° to 40°C;

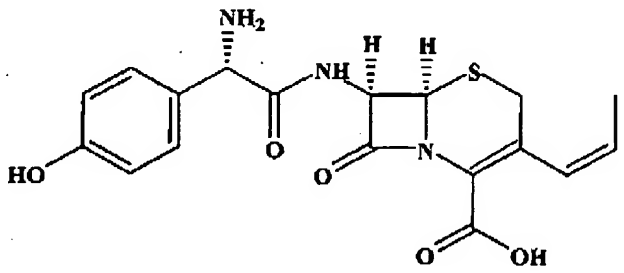
(b) cooling the solution to a temperature in the range of –70° to –30°C;

(c) addition of Dane salt of an α-amino-p-hydroxy phenyl acetic acid to the cooled solution and agitation at a temperature in the range of –70° to –30°C.

2. (Canceled)

App. No.: 10/801,443
Art Unit: 1624

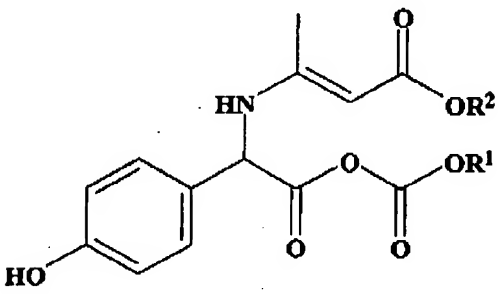
3. (Currently Amended) A process for preparation of Cefprozil of formula (I)



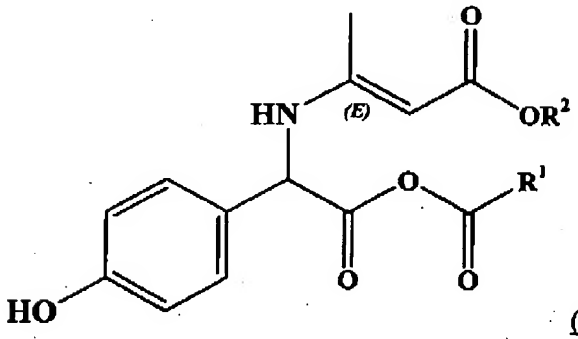
(I)

in the form of a monohydrate, the process comprising:

condensing a mixed acid anhydride of α-amino-p-hydroxy phenyl acetic acid of formula (III)



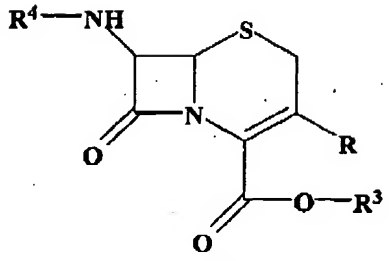
(III)



(IIIa)

wherein R^1 is an alkyl or an aryl group and R^2 is methyl or ethyl,

with a protected 7-amino-3-(propen-1-yl)-3-cephem-4-carboxylic acid of formula (VII)



(VII)

wherein R^3 and R^4 are protective groups, R is propen-1-yl,

followed by hydrolysis, isolation and purification to give Cefprozil of formula (I) in the form of a monohydrate,

wherein the mixed anhydride of formula (III) is prepared by a process comprising the steps of

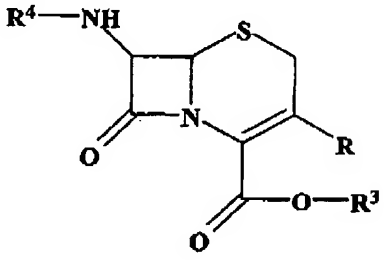
(a) adding ~~a suitable~~ an acylating agent and a base to an inert organic solvent at a temperature in the range of 0° to 40°C;

(b) cooling the solution to a temperature in the range of –70° to –30°C;

(c) addition of Dane salt of an α-amino-p-hydroxy phenylacetic acid to the cooled solution and agitation at a temperature in the range of –70° to –30°C;

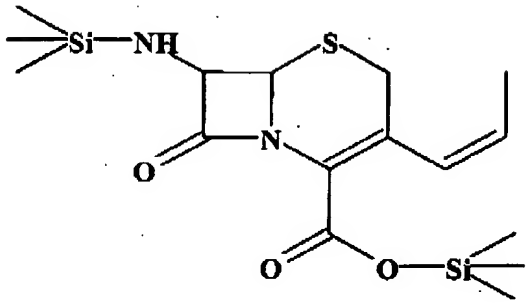
(d) addition of a polar aprotic solvent to the above solution and agitation at a temperature in the range of –70° to –30°C.

4. (Currently Amended) A process as in claim 1 wherein the protected 7-amino-3- (propen-1-yl)-3-cephem-4-carboxylic [7-APCA] of formula (VII) ~~used~~ is:



(VII)

~~is such that~~where R^3 and R^4 are each a tri alkylsilyl group,



and R is propen-1-yl.

5. (Currently Amended) A process according to claim 1, wherein the inert organic solvent employed in step (a) ~~is selected from the group consisting of~~ comprises methylene chloride, tetrahydrofuran, chloroform, diethyl ether, ~~chlorotethane~~ chloroethane, acetonitrile, trichloroethylene, ~~and~~ ethyl acetate, or mixture thereof.

6. (Currently Amended) A process according to claim 3, wherein the inert organic solvent employed in step (a) ~~is selected from the group consisting of~~ comprises methylene chloride, tetrahydrofuran, chloroform, diethyl ether, chloroethane, acetonitrile, trichloroethylene, ~~and~~ ethyl acetate, or mixture thereof.

7. (Currently Amended) A process according to claim 1, wherein the polar aprotic solvent employed in step (a) ~~is selected from the group consisting of~~ comprises N, N-dimethyl formamide, acetone, acetonitrile, dimethyl sulphoxide, ~~and~~ dimethyl acetamide, or mixture thereof.

8. (Currently Amended) A process according to claim 3, wherein the polar aprotic solvent employed in step (a) ~~is selected from the group consisting of~~ comprises N, N-dimethyl formamide, acetone, acetonitrile, dimethyl sulphoxide, ~~and~~ dimethyl acetamide, or mixture

thereof.

9. (Currently Amended) A process according to claim 1 wherein the ~~suitable~~ acylating agent employed in step (a) is an aliphatic, alicyclic, or aromatic acid, an ester of an aliphatic, alicyclic, or aromatic acid, or a halogenide of an aliphatic, alicyclic, or aromatic acid.

10. (Currently Amended) A process according to claim 3, wherein the ~~suitable~~ acylating agent employed in step (a) is an aliphatic, alicyclic, or aromatic acid, an ester of an aliphatic, alicyclic, or aromatic acid, or a halogenide of an aliphatic, alicyclic, or aromatic acid.

11. (Currently Amended) A process according to claim 1, wherein the base employed in step (a) ~~is selected from the group consisting of~~ comprises triethylamine, picoline, N-methylmorpholine, N, N-dimethylbenzylamine, lutidine, N, N-dimethyl-4-aminopyridine, ~~and~~ N, N-dicyclohexylamine, or mixture thereof.

12. (Currently Amended) A process according to claim 3, wherein the base employed in step (a) ~~is selected from the group consisting of~~ comprises triethylamine, picoline, N-methylmorpholine, N, N-dimethylbenzylamine, lutidine, N, N-dimethyl-4-aminopyridine, ~~and~~ N, N-dicyclohexylamine, or mixture thereof.

13. (Previously Amended) A process according to claim 1, wherein the acylating agent employed in step (a) is in the molar ratio of 1.0 to 1.5 moles per mole of Dane salt.

14. (Previously Amended) A process according to claim 3, wherein the acylating agent employed in step (a) is in the molar ratio of 1.0 to 1.5 moles per mole of Dane salt.

15. (Previously Amended) A process according to claim 1, wherein the base employed in step (a) is in the molar ratio of 0.02 to 0.04 moles per mole of the Dane salt.

16. (Previously Amended) A process according to claim 3, wherein the base employed in step (a) is in the molar ratio of 0.02 to 0.04 moles per mole of the Dane salt.

17. (Currently Amended) A process according to claim 1 wherein the temperature in step (a) is in the range of 20°C to 25°C.

18. (Currently Amended) A process according to claim 3 wherein the temperature in step (a) is in the range of 20°C to 25°C.

19. (Previously Amended) A process according to claim 1, wherein the Dane salt is sodium or potassium D-N- (1-methoxycarbonylpropene-2-yl)-α-amino-p-hydroxyphenyl acetate or sodium or potassium D-N- (1-ethoxycarbonylpropene-2-yl)-α-amino-p-hydroxyphenyl acetate.

20. (Previously Amended) A process according to claim 3 wherein the Dane salt is sodium or potassium D-N- (1-methoxycarbonylpropene-2-yl)-α-amino-p-hydroxyphenyl acetate or sodium or potassium D-N- (1-ethoxycarbonylpropene-2-yl)-α-amino-p-hydroxyphenyl acetate.

21. (Previously Amended) A process according to claim 1 wherein the temperature in step (b) is in the range of -35°C to –50°C.

22. (Previously Amended) A process according to claim 3 wherein the temperature in step (b) is in the range of -35°C to –50°C.

23. (Previously Amended) A process according to claim 1 wherein the temperature in step (c) is in the range of –35°C to –50°C.

24. (Previously Amended) A process according to claim 3 wherein the temperature in step (c) is in the range of –35°C to –50°C.

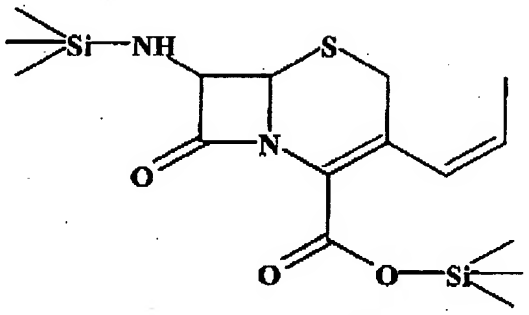
25. (Currently Amended) A process according to claim 1 wherein the mixed acid anhydride is condensed with protected 7-amino-3- (propen-1-yl)-3-cephem-4-carboxylic acid at a temperature in the range of –90°C to –30°C.

App. No.: 10/801,443
Art Unit: 1624

26. (Currently Amended) A process according to claim 25 wherein the mixed acid anhydride is condensed with protected 7-amino-3- (propen-1-yl)-3-cephem-4-carboxylic acid at a temperature in the range of –50°C to –40°C.

27. (Currently Amended) A process according to claim 38 wherein the mixed acid anhydride is condensed with protected 7-amino-3- (propen-1-yl)-3-cephem-4-carboxylic acid at a temperature in the range of –50°C to –40°C.

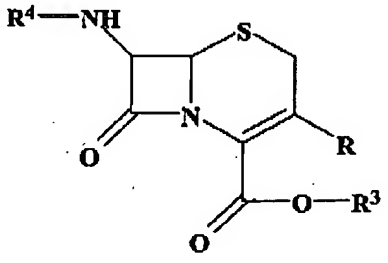
28. (Previously Amended) A silylated 7-amino-3- (propen-1-yl)-3-cephem-4-carboxylic acid according to claim 4, is of formula (VI).



(VI).

29-30. (Canceled)

31. (Currently Amended) A process according to claim 3 wherein the protected 7-amino-3-(propen-1-yl)-3-cephem-4-carboxylic [7-APCA] of formula (VII) ~~used~~ is:



(VII)

~~is such that~~where R^3 and R^4 are each tri alkylsilyl group, and R is propen-1-yl.

32. (Previously Presented) A process according to claim 7, wherein the polar aprotic solvent is N, N-dimethyl formamide.

33. (Previously Presented) A process according to claim 8, wherein the polar aprotic solvent is N, N-dimethyl formamide.

34. (Currently Amended) A process according to claim 41, wherein the ~~suitable~~ acylating agent is ethyl chloroformate.

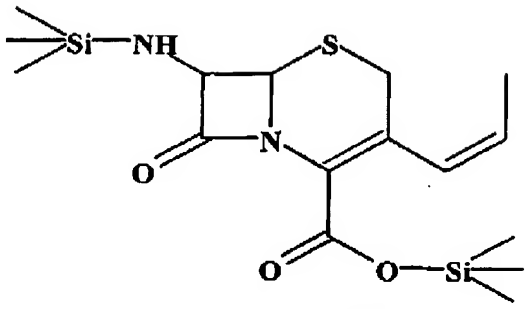
35. (Currently Amended) A process according to claim 42, wherein the ~~suitable~~ acylating agent is ethyl chloroformate.

36. (Previously Presented) A process according to claim 11, wherein the base is N-methylmorpholine.

37. (Previously Presented) A process according to claim 12, wherein the base is N-methylmorpholine.

38. (Currently Amended) A process according to claim 3, wherein the mixed acid anhydride is condensed with protected 7-amino-3-(propen-1-yl)-3-cephem-4-carboxylic acid at a temperature in the range of –90°C to –30°C.

39. (Currently Amended) A silylated 7-amino-3- (propen-1-yl)-3-cephem-4-carboxylic acid according to claim 31, ~~is of~~having formula (VI)



(VI).

40. (Previously Presented) A process according to claim 3 wherein the temperature in step (d) is in the range of –35°C to –50°C.

41. (Currently Amended) A process according to claim 9 wherein the ~~suitable~~ acylating agent ~~is selected from the group consisting of~~ comprises chloroformic acid, benzoic acid, pivalic acid, 2-ethylhexanoic acid, ethyl chloroformate, isobutyl chloroformate, pivaloyl chloride, 2-ethyl-hexanoyl chloride, ~~and~~ or benzoyl chloride.

42. (Currently Amended) A process according to claim 10 wherein the ~~suitable~~ acylating agent ~~is selected from the group consisting of~~ comprises chloroformic acid, benzoic acid, pivalic acid, 2-ethylhexanoic acid, ethyl chloroformate, isobutyl chloroformate, pivaloyl chloride, 2-ethyl-hexanoyl chloride, ~~and~~ or benzoyl chloride.